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### 1 [Real-time shadowing techniques](#)

[Tomas Akenine-Moeller](#), [Eric Chan](#), [Wolfgang Heidrich](#), [Jan Kautz](#), [Mark Kilgard](#), [Marc Stamminger](#)

August 2004 **SIGGRAPH '04: SIGGRAPH 2004 Course Notes**

**Publisher:** ACM

Full text available: (11.17 MB)

[Additional Information: full citation, abstract, cited by](#)

**Bibliometrics:** Downloads (6 Weeks): 9, Downloads (12 Months): 163, Downloads (Overall): 1355, Citation Count: 2

Shadows heighten realism and provide important visual cues about the spatial relationships between objects. But integration of robust shadow shadowing techniques in real-time rendering is not an easy task. In this course on how shadows are incorporated ...

### 2 [GPGPU: general purpose computation on graphics hardware](#)

[David Luebke](#), [Mark Harris](#), [Jens Krüger](#), [Tim Purcell](#), [Naga Govindaraju](#), [Ian Buck](#), [Cliff Woolley](#), [Aaron Lefohn](#)

August 2004 **SIGGRAPH '04: SIGGRAPH 2004 Course Notes**

**Publisher:** ACM

Full text available: (63.03 MB)

[Additional Information: full citation, abstract, cited by](#)

**Bibliometrics:** Downloads (6 Weeks): 105, Downloads (12 Months): 1350, Downloads (Overall): 7215, Citation Count: 19

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex ...

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### 3 [Can you see what i hear?: the design and evaluation of a peripheral sound display for the deaf](#)

[E. Wai-ling Ho-Ching](#), [Jennifer Mankoff](#), [James A. Landay](#)

April 2003 **CHI '03: Proceedings of the SIGCHI conference on Human factors in computing systems**

**Publisher:** ACM

Full text available: (8.24 MB)

[Additional Information: full citation, abstract, references, cited by, index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 7, Downloads (12 Months): 142, Downloads (Overall): 1734, Citation Count: 4

We developed two visual displays for providing awareness of environmental audio to deaf individuals. Based on fieldwork with deaf and hearing participants, we focused on supporting awareness of non-speech audio sounds such as ringing phones and knocking ...

**Keywords:** assistive technology, deaf, non-speech audio, peripheral and ambient and notification displays, sound visualization

4 [The KScalar simulator](#)



[J. C. Moura](#), [Dolores I. Rexachs](#), [Emilio Luque](#)

March 2002 **Journal on Educational Resources in Computing (JERIC)** , Volume 2 Issue 1

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) [Pdf](#) (493.35 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 5, Downloads (12 Months): 63, Downloads (Overall): 835, Citation Count: 1

Modern processors increase their performance with complex microarchitectural mechanisms, which makes them more and more difficult to understand and evaluate. KScalar is a graphical simulation tool that facilitates the study of such processors. It allows ...

**Keywords:** Education, pipelined processor simulator

5 [Specification and dialogue control of visual interaction through visual rewriting systems](#)



[P. Bottoni](#), [M. F. Costabile](#), [P. Mussio](#)

November 1999 **Transactions on Programming Languages and Systems (TOPLAS)** , Volume 21 Issue 6

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) [Pdf](#) (886.71 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#), [review](#)

**Bibliometrics:** Downloads (6 Weeks): 3, Downloads (12 Months): 52, Downloads (Overall): 553, Citation Count: 10

Computers are increasingly being seen not only as computing tools but more so as communication tools, thus placing special emphasis on human-computer interaction (HCI). In this article, the focus is on visual HCI, where the messages exchanged between ...

**Keywords:** control automaton, dialogue control, visual languages

6 [Reviving the past: cultural heritage meets virtual reality](#)



[Athanasios Gaitatzes](#), [Dimitrios Christopoulos](#), [Maria Roussou](#)

November 2001 **VAST '01: Proceedings of the 2001 conference on Virtual reality, archeology, and cultural heritage**

**Publisher:** ACM

Full text available: [Pdf](#) [Pdf](#) (8.97 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 2, Downloads (12 Months): 78, Downloads (Overall): 1026, Citation Count: 6

The use of immersive virtual reality (VR) systems in museums is a recent trend, as the development of new interactive technologies has inevitably impacted the more traditional sciences and arts. This is more evident in the case of novel interactive technologies ...

**Keywords:** computer archaeology, cultural heritage, education, immersion, virtual reality

7 [Photorealistic rendering of knitwear using the lumislice](#)



[Ying-Qing Xu](#), [Yanyun Chen](#), [Stephen Lin](#), [Hua Zhong](#), [Enhua Wu](#), [Baining Guo](#), [Heung-Yeung Shum](#)

August 2001 **SIGGRAPH '01: Proceedings of the 28th annual conference on Computer graphics and interactive techniques**

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) [Pdf](#) (29.02 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 8, Downloads (12 Months): 121, Downloads (Overall): 1033, Citation Count: 7

We present a method for efficient synthesis of photorealistic free-form knitwear. Our approach is motivated by the observation that a single cross-section of yarn can serve as the basic primitive for modeling entire articles of knitwear. This primitive, ...

**Keywords:** image-based rendering, knitwear, parametric surfaces, photorealistic rendering, transparency blending

8 [High-level specification and efficient implementation of pipelined circuits](#)



Maria-Cristina Marinescu, Martin Rinard

January 2001 **ASP-DAC '01: Proceedings of the 2001 Asia and South Pacific Design Automation Conference**

**Publisher:** ACM

Full text available: Pdf (110.87 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 1, Downloads (12 Months): 15, Downloads (Overall): 162, Citation Count: 2

This paper describes a novel approach to high-level synthesis of complex pipelined circuits, including pipelined circuits with feedback. This approach combines a high-level, modular specification language with an efficient implementation. In our system, ...

9 [Protected interactive 3D graphics via remote rendering](#)



David Koller, Michael Turitzin, Marc Levoy, Marco Tarini, Giuseppe Crocchia, Paolo Cignoni, Roberto Scopigno

August 2004 **SIGGRAPH '04: SIGGRAPH 2004 Papers**

**Publisher:** ACM

Full text available: Pdf (368.19 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 8, Downloads (12 Months): 108, Downloads (Overall): 1050, Citation Count: 16

Valuable 3D graphical models, such as high-resolution digital scans of cultural heritage objects, may require protection to prevent piracy or misuse, while still allowing for interactive display and manipulation by a widespread audience. We have investigated ...

**Keywords:** 3D models, digital rights management, remote rendering, security

Also published in:

August 2004 **Transactions on Graphics (TOG)** Volume 23 Issue 3

10 [Intrusion detection techniques for mobile wireless networks](#)

Yongquan Zhang, Wenke Lee, Yi-An Huang

September 2003 **Wireless Networks**, Volume 9 Issue 5

**Publisher:** Kluwer Academic Publishers

Full text available: Pdf (164.73 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 36, Downloads (12 Months): 320, Downloads (Overall): 6295, Citation Count: 37

The rapid proliferation of wireless networks and mobile computing applications has changed the landscape of network security. The traditional way of protecting networks with firewalls and encryption software is no longer sufficient and effective. We ...

**Keywords:** anomaly detection, cooperative detection, intrusion detection, intrusion response, mobile ad-hoc networks

11 [Tutorial: Compiling concurrent languages for sequential processors](#)



Stephen A. Edwards

April 2003 **Transactions on Design Automation of Electronic Systems (TODAES)**, Volume 8 Issue 2

**Publisher:** ACM

Full text available: Pdf (771.65 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#), [review](#)

**Bibliometrics:** Downloads (6 Weeks): 8, Downloads (12 Months): 76, Downloads (Overall): 863, Citation Count: 12

Embedded systems often include a traditional processor capable of executing sequential code, but both control and data-dominated tasks are often more naturally expressed using one of the many domain-specific concurrent specification languages. This article ...

**Keywords:** Compilation, Esterel, Lustre, Petri nets, Verilog, code generation, communication, concurrency, dataflow, discrete-event, partial evaluation, sequential

12 [Scientific data repositories: designing for a moving target](#)



[Etzard Stolte](#), [Christoph von Fraun](#), [Gustavo Alonso](#), [Thomas Gross](#)

June 2003 **SIGMOD '03: Proceedings of the 2003 ACM SIGMOD international conference on Management of data**

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) (739.27 KB)

[Additional Information: full citation, abstract, references, cited by, index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 9, Downloads (12 Months): 60, Downloads (Overall): 760, Citation Count: 6

Managing scientific data warehouses requires constant adaptations to cope with changes in processing algorithms, computing environments, database schemas, and usage patterns. We have faced this challenge in the RHESSI Experimental Data Center (HEDC), ...

13 [GCspy: an adaptable heap visualisation framework](#)



[Tony Printezis](#), [Richard Jones](#)

November 2002 **OOPSLA '02: Proceedings of the 17th ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) (215.66 KB)

[Additional Information: full citation, abstract, references, cited by, index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 0, Downloads (12 Months): 40, Downloads (Overall): 507, Citation Count: 7

GCspy is an architectural framework for the collection, transmission, storage and replay of memory management behaviour. It makes new contributions to the understanding of the dynamic memory behaviour of programming languages (and especially object-oriented ...

**Keywords:** Java, garbage collection, language implementation, memory management, visualisation of objects

Also published in:

November 2002 **SIGPLAN Notices** Volume 37 Issue 11

14 [The elements of nature: interactive and realistic techniques](#)



[Oliver Deussen](#), [David S. Ebert](#), [Ron Fedkiw](#), [F. Kenton Musgrave](#), [Przemyslaw Prusinkiewicz](#), [Doug Roble](#), [Jos Stam](#), [Jerry Tessendorf](#)

August 2004 **SIGGRAPH '04: SIGGRAPH 2004 Course Notes**

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) (17.65 MB)

[Additional Information: full citation, abstract, cited by](#)

**Bibliometrics:** Downloads (6 Weeks): 111, Downloads (12 Months): 1332, Downloads (Overall): 7521, Citation Count: 2

This updated course on simulating natural phenomena will cover the latest research and production techniques for simulating most of the elements of nature. The presenters will provide movie production, interactive simulation, and research perspectives ...

15 [A software model and specification language for non-WIMP user interfaces](#)



[Robert J. K. Jacob](#), [Leonidas Deligiannidis](#), [Stephen Morrison](#)

March 1999 **Transactions on Computer-Human Interaction (TOCHI)**, Volume 6 Issue 1

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) (574.62 KB)

[Additional Information: full citation, abstract, references, cited by, index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 5, Downloads (12 Months): 100, Downloads (Overall): 1058, Citation Count: 57

We present a software model and language for describing and programming the fine-grained aspects of interaction in a non-WIMP user interface, such as a virtual environment. Our approach is based on our view that the essence of a non-WIMP dialogue is ...

**Keywords:** PMIW, interaction techniques, non-WIMP interface, specification language, state transition diagram, user interface management system (UIMS)

## 16 Real-time volume graphics



Klaus Engel, Markus Hadwiger, Joe M. Kniss, Aaron E. Lefohn, Christof Rezk Salama, Daniel Weiskopf

August 2004 **SIGGRAPH '04: SIGGRAPH 2004 Course Notes**

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) (7.63 MB)

**Additional Information:** [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 44, Downloads (12 Months): 570, Downloads (Overall): 3028, Citation Count: 4

The tremendous evolution of programmable graphics hardware has made high-quality real-time volume graphics a reality. In addition to the traditional application of rendering volume data in scientific visualization, the interest in applying these techniques ...

## 17 Real-time shading



Marc Olano, Kurt Akeley, John C. Hart, Wolfgang Heidrich, Michael McCool, Jason L. Mitchell, Randi Rost

August 2004 **SIGGRAPH '04: SIGGRAPH 2004 Course Notes**

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) (7.39 MB)

**Additional Information:** [full citation](#), [abstract](#), [cited by](#)

**Bibliometrics:** Downloads (6 Weeks): 25, Downloads (12 Months): 457, Downloads (Overall): 3748, Citation Count: 2

Real-time procedural shading was once seen as a distant dream. When the first version of this course was offered four years ago, real-time shading was possible, but only with one-of-a-kind hardware or by combining the effects of tens to hundreds of rendering ...

## 18 Linking public spaces: technical and social issues



Gavin Jancke, Gina Danielle Venolia, Jonathan Grudin, J. J. Cadiz, Anoop Gupta

March 2001 **CHI '01: Proceedings of the SIGCHI conference on Human factors in computing systems**

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) (467.59 KB)

**Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

**Bibliometrics:** Downloads (6 Weeks): 10, Downloads (12 Months): 87, Downloads (Overall): 964, Citation Count: 28

Three public spaces frequency used by members of a single organization who are distributed across different floors of two buildings were linked by constantly-running video and audio connections. We discuss the design of the system, including issues in ...

**Keywords:** informal communication, privacy, videoconferencing

## 19 Collision detection and proximity queries



Sunil Hadap, Dave Eberle, Pascal Volino, Ming C. Lin, Stephane Redon, Christer Ericson

August 2004 **SIGGRAPH '04: SIGGRAPH 2004 Course Notes**

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) (11.22 MB)

**Additional Information:** [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 34, Downloads (12 Months): 517, Downloads (Overall): 3538, Citation Count: 4

This course will primarily cover widely accepted and proved methodologies in collision detection. In addition more advanced or recent topics such as continuous collision detection, ADFs, and using graphics hardware will be introduced. When appropriate ...

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